MOBILE SURGICAL X-RAY SYSTEM BV25-S

VOLUME 1 OF 2 SYSTEM INFORMATION

MOBILE SURGICAL X-RAY SYSTEM BV25-S

1. Manufacturing documents BV25-S

   - Specification and Packing list BV25-S
   - Status Report with test and performance data BV25-S
   - Licence for Practix-C tank
   - A.P. Certificate
   - List of Service manuals

2. Service documentation BV25-S

   - Volume 1: BV25-S information
   - Volume 2: Video information

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FILING INSTRUCTIONS

This manual should be filed in the set of
Service documentation for the
Mobile Surgical X-ray system BV25-S.

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PACKING LIST

PROJECT NAME : **BIE**

SYSTEM : **BV25 SPECIAL DUITSLAND**

COMM. ORDER : **320301 886581**

COLLO NUMBER	*ITEM NUMBER*	*DESCRIPTION*	
454101		**BV 25 MOBILE C-ARM X-RAY SYST.** COMPACT MOBILE STAND SET OF DOCUMENTATION SET OF USER MANUALS MOBILE MONITOR TROLLY	

O R D E R - D E L I V E R Y - S H E E T

SYSTEM KIND : / / / / /

UPDATED INCLUDING CHANGE NBR:

PROJECT-DEST: BIE
COUNTRY : GERMANY
HOSPITAL :

CUST. ORDER : 320301 886581 ORDER-KIND : OL
SHOPORDER : SBO CE00587
PROJECT-NUMBER: 9896 000 22651
CORRESPONDENT : 6000 DIS BASELMA SCREENER: 6000 DIS LODEWYK

LINE NO	ITEM NO	QTY	ITEM DESCRIPTION	LOT-NO	CDD
1010	989600022651	1	BV25 SPECIAL GERMANY	0000042105	220695
0001	MMC1001	1	BV25 SYSTEM		
2001	989600006451	1	UNIVERSAL PART BV25 XTV8S		
2002	989600006471	1	SUPPL.BV25 IEC 50HZ XTV8S		
2003	980775300001	1	HMR17S TV MON.ROT.50HZ		
2004	984910000201	1	MOUNTINGSET ONE 17" MON.		
2005	980772102001	1	DIGITAL SCOPOFIX MDP		
0002	989601010231	1	THERMAL PRINTER UP-910		

Status report Mobile Surgery System

1 System type: ■ BV25 ☐ BV26 ☐ BV29 ☐ BV212

2 Alfa-nummeric code: MMC 1001 12 NC: 9896 000 22651

3 **Factory nr. :** S 130 C 600584

4 Mains voltage: 220 V

5 Mains resistance: 600 mΩ

6 Mains frequency: 50 Hz

7 Tested by: M. LEIJTEN Date: 14-6-95

8 High Voltage for Fluoroscopy

kV setting on desk		100 kV	75 kV	40 kV
Primary High Voltage	PRHV	346,0 V	257,5 V	137,8 V
kVp beam Fluoroscopy *)	KVFLUO	104,5 kV	74,3 kV	
Mini-XPlus serial number: 140				

9 Tube current Fluoroscopy

kV setting on desk mA reading on desk		100 kV 3,0 mA	70 kV 2,6 mA	50 kV 0,44 mA	40 kV 0,10 mA
Measured current Normal Dose	MAFLUO	2,98 mA	2,55 mA	0,43 mA	0,08 mA
kV setting on desk mA reading on desk		100 kV 7,2 mA	70 kV 6,2 mA	50 kV 1,1 mA	40 kV 0,24 mA
Measured current High Dose	MAFLHD	7,11 mA	6,10 mA	1,04 mA	0,23 mA

10 Tube current Radiography

kV setting on desk mAs setting on desk	(20 mA fixed)	100 kV 80 mAs	70 kV 80 mAs	40 kV 80 mAs
Measured current Radiography	MARAD	20,3 mA	20,9 mA	20,4 mA
0,25 Volt (measured at SE19:MP4 and MP5) equals 1 mA				

*) **Caution:** Non invasive High Voltage measurment depends highly on waveform and filtration. The measuring equipment should have a dedicated calibration. In case of doubt always check the primary high voltage on measuringpoint: SE37 +PRHV/-PRHV (See table below)

kV_{beam}	$U_{primary}$ Fluoroscopy	$U_{primary}$ Exposure
100 kV	346 V ± 1 V (setpoint)	364 V ± 11 V
80 kV	278 V ± 3 V	296 V ± 9 V
60 kV	209 V ± 3 V	228 V ± 7 V
40 kV	139 V ± 3 V	160 V ± 5 V

Factory nr. :	S 80 C E00587

11 High Voltage for Radiography

kV setting on desk		100 kV	75 kV	40 kV
Primary High Voltage	PRHV	367,1 V	278,3 V	155,6 V
kV setting on desk		100 kV	80 kV	60 kV
kVp beam Radiography *)	KVRAD	105,4 kV	81,2 kV	59,4 kV
Mini-XPlus serial number:	140			

12 Exposure Time Radiography

mAs setting on desk	(20 mA fixed)	2 mAs	20 mAs	80 mAs
Exposure Time		100 ms	1,00 s	3,99 s

13 Beam Alignment Fluoroscopy / Radiography

Deviation		Cfluo	P + Q	R + S	P + Q + R + S
Fluoroscopy	F0	4 mm	12 mm	11 mm	23 mm
Fluoroscopy	F1	mm	mm	mm	mm
Fluoroscopy	F2	mm	mm	mm	mm
Deviation		Crad	|P| + |Q|	|R| + |S|	|P| + |Q| + R| + S|
Radiography		7 mm	10 mm	11 mm	21 mm
F0 = Largest II format F1 and F2 not applicable for BV25/26					

14 Visible Area

II mode	F0	F1	F2
Horizontal	141 mm	mm	mm
Vertical	142 mm	mm	mm
F0 = Largest II format F1 and F2 not applicable for BV25/26			

*) **Caution:** Non invasive High Voltage measurment depends highly on waveform and filtration. The measuring equipment should have a dedicated calibration. In case of doubt always check the primary high voltage on measuringpoint: SE37 +PRHV/-PRHV (See table page 1)

Factory nr. :	S B0 C E00587

15 Leakage Radiation at 105 kV and 65 Watt *)

Radiation	27,3 µGy/hr

16 Fluoroscopic entrance exposure rate *)

Exposure rate	34106 µGy/min

17 Dose Rate Fluoroscopy at 75 kV *)

	F0	F1	F2
Normal mode	0,26 µGy/s	µGy/s	µGy/s
Boost mode	0,73 µGy/s	µGy/s	µGy/s
F0 = Largest II format F1 and F2 not applicable for BV25/26			

18 Reproduceability and Output *)

Reproduceability C.O.V.	0
Output	2,17 µGy/m²/mAs

19 Fluoroscopy automatic conditions

Attenuation 20 mm Al + 2 mm Cu		F0	F1	F2
Tube Voltage on display	kV desk	74 kV	kV	kV
Tube Current on display	mA desk	2,4 mA	mA	mA
Attenuation 20 mm Al + 4 mm Cu		F0	F1	F2
Tube Voltage on display	kV desk	89 kV	kV	kV
Tube Current on display	mA desk	3,9 mA	mA	mA
F0 = Largest II format F1 and F2 not applicable for BV25/26				

20a Video Signals

Black Level		43 mV
Stabilized Video Out memory		400 mV
Set-up of clean circle		65 mV
Contrast ratio memory	B/A	6,4

*) Dose and Dose rate measured in Gray (Conversion factor µGy to µR = 114,5)

Factory nr. :	S 130 C E00587

20b Video Levels Memory

Base attenuation		1 mm CU	2 mm Cu	2,5 mm CU
Fluoroscopy	base	720 mV	460 mV	300 mV
Fluoroscopy	+ 0,5 mm Cu	580 mV	290 mV	170 mV
SUB	base	210 mV	210 mV	210 mV
SUB inject	+ 0,3 mm Cu	130 mV	110 mV	130 mV
MAX	base		mV	
MAX inject	+ 0,3 mm Cu		mV	
MAP	base		mV	
MAP inject	+ 0,3 mm Cu		mV	
MAP cath	base		mV	
MAP cath	+ 2,5 mm Al		mV	

21 Resolution on TV-monitor

II mode	F0	F1	F2
At center	2,2 lp/mm	lp/mm	lp/mm
F0 = Largest II format F1 and F2 not applicable for BV25/26			

22 Picture Performance

II mode	F0	F1	F2
Spots	1		
F0 = Largest II format F1 and F2 not applicable for BV25/26			

23 Earth Leakage current

Normal condition	105,9 µA
Single fault condition	180,1 µA

Factory nr. :	S BO C E00 587

24 Earth Resistance

II-container	120 mΩ
X-Ray tank	120 mΩ
C-arm	120 mΩ
Monitor	100 mΩ
Trolley covers	95 mΩ
Stand covers	110 mΩ
Reference point: earth terminal of mains plug	

25 Installed Software release

Release number	Rel. : —

26 Installed Options

System type		BV25	BV26	BV29	BV212
Second Monitor for BV25	MMC 1031	☐			
Image Storige Extension 34 images	MMC 1041	☐			
Video Data Unit	MMC 1051	☐			
Video Hard Copy Unit 1	MMC 1061	☐	☐	☐	☐
Video Hard Copy Unit 1/4	MMC 1081	☐	☐	☐	☐
Image Storage 190 + Mosaic	MMC 1112		☐	☐	☐
Angio Extension	MMC 1122		☐	☐	☐
Video Memory 32 images	MMC 1131		☐	☐	☐
Video Memory 128 images	MMC 1141		☐	☐	☐
Remote Control	MMC 1191		☐	☐	☐
Laser Aligment Tool	MMC 1201	☐	☐	☐	
Printer Sony UP910	MMC 1211	■	☐	☐	☐

THIS EQUIPMENT HAS BEEN INSPECTED AND TESTED BY THE LATEST AND MOST EXACTING METHODS AND WAS FOUND TO CONFORM TO SPECIFICATION.
SHOULD ANY COMPLAINT ARISE PLEASE QUOTE SYSTEM SERIAL NO. C E.00.587